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ANNUAL REPORT  
OF THE  
NEW MEXICO  
COLLEGE OF AGRICULTURE  
AND MECHANIC ARTS,

COMPRISING THE

Sixth Annual Report of the Morrill Fund,  
(For the Support of the College.)

Seventh Annual Report of the Hatch Fund,  
(For the Support of the Experiment Station.)

Seventh Annual Report of the Territorial Funds,  
(For College Buildings and Sub-Station Buildings.)

1896.  
EXAMINER PUBLISHING COMPANY,  
Las Vegas, New Mexico.

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ANATOMY  
HARVARD UNIVERSITY

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# Agricultural Experiment Station,

Mesilla Park, New Mexico.

Seventh Annual Report of the Board of Control to the Governor  
of the Territory, under act of Congress, of March  
2, 1887, Establishing Agricultural  
Experiment Stations.

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*Hatch Fund---For Support of Experiment Stations.*

1895==1896.

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## LETTER OF TRANSMITTAL.

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MESILLA PARK, Dec. 1, 1896.

HON. WILLIAM T. THORNTON,  
Governor of New Mexico.

*Sir:*—I have the honor to transmit to you, herewith, the  
Seventh Annual Report of the Board of Regents of the New  
Mexico College of Agriculture and Mechanic Arts, concerning  
the Agricultural Experiment Station connected therewith.

Respectfully,

DEMETRIO CHAVEZ,  
Secretary and Treasurer.

## DIRECTOR'S REPORT.

During the year ending June 30, 1896, the following Station Officers have carried on the work of the New Mexico Agricultural Experiment Station:

SAMUEL P. MCCREA, Director and Chairman.

ELMER O. WOOTON, M. S., Botanist and Secretary.

ARTHUR GOSS, M. S., A. C., Chemist and Vice-Director.

T. D. A. COCKERELL, Entomologist.

GEORGE VESTAL, Agriculturist and Horticulturist.

R. FRED HARE, M. S., Assistant to Chemist.

FABIAN GARCIA, B. S., Assistant to Agriculturist and Horticulturist.

F. E. LESTER, Clerk and Stenographer.

H. H. GRIFFIN, B. S., Superintendent San Juan Branch Station, Aztec, N. M.

FRANK BEACH, M. S., Superintendent Las Vegas Branch Station, Las Vegas, N. M.

The lines of work carried on have been those which have the greatest practical bearing on the agricultural development of the Territory.

### EQUIPMENT.

While something has been added to the equipment of nearly every Division of the Station, nothing has been more important than the erection of a Greenhouse near the farm building. It will be put in operation during the coming year, and will be found one of the most helpful agencies in Station work.

### PUBLICATIONS.

The publications of the Station since the last Report have been as follows:

Bulletin No. 16.—Russian Thistle.



Bulletin No. 17.—Principles of Stock Feeding and Some New Mexico Feeding Stuffs.

Bulletin No. 18.—Some New Mexico Forage Plants.

Bulletin No. 19.—Report of the Entomologist, Part I.

As in the year 1895, the Station work has been much hampered by the lack of means. No funds have been available for investigating the various sections of the Territory, and little has been attempted in this direction. No division of the Station has had enough funds to attempt all the work that might have been successfully carried on.

#### SUB-STATION SUPPORT.

As several rulings have been made by the Director of Experiment Stations, and approved by the Secretary of Agriculture, upon this important question, nothing further is deemed necessary than to call attention to them. According to these rulings the Territory must assume the cost of the *permanent* support of all *definitely* located Sub-Stations.

#### WATER SUPPLY FOR COLLEGE AND STATION.

In my report for 1895 attention is especially called to this important question, and many good reasons given why a satisfactory water supply should be secured at the earliest date possible.

#### FARMERS' INSTITUTES.

Though but one Farmers' Institute has ever been held in the Territory, and that at the Agricultural College at Mesilla Park, on January 2nd and 4th, inclusive, 1896, it can at least be claimed that this important form of agricultural education has been inaugurated in New Mexico.

What this movement, so valuable in the various states, shall accomplish here, will depend on the ability and willingness of the Director and Station workers to interest those engaged in agricultural pursuits; and to secure their co-operation in obtain-

ing from the legislative assembly a sufficient appropriation to hold at least one Institute yearly in each county.

#### FOOD INVESTIGATIONS.

It is with pleasure that I call attention to the fact that the U. S. Government through its special agent, Dr. A. O. Atwater, has extended substantial recognition to the Chemical Department of this Station, in the appointment of Vice-Director Arthur Goss, to make investigation of the food of the native population of the Territory. This work is now being done, and the results of the same will be incorporated into bulletins to be issued by the Department of Agriculture at Washington, D. C.

It is with satisfaction that I call attention to the harmony that has existed among the Station workers during the past year, and to the evident purpose of making greater efforts to properly systematize and record the observations already made and to be made hereafter.

Without greatly increased means it will be impossible for the Station to enter upon any new lines of investigations. More has already been attempted than can be done well with the *present* revenue and force.

In severing my connection with this Station I desire to express my gratification at the earnestness and fidelity manifested by the Station workers now employed here and at the Sub-Stations. But it is certain that results commensurate with the importance of the work at this Station, can never be obtained until Station workers are assured of some permanency in tenure of office.

Reports from the various Divisions of the Station follow; also reports from the Sub-Station farms at Aztec and Las Vegas.

Respectfully,

S. P. McCREA,

Director.

June 30, 1896.



## DIVISION OF AGRICULTURE AND HORTICULTURE.

S. P. McCREA, Director.

*Sir:*—I have the honor of submitting the following condensed report of the work done on the Experiment Station farm for the year ending June 30, 1896.

As my connection with this Station began the first of this year, the first work was devoted to cultivating and harvesting crops, and carrying out experiments which were planned previous to my taking charge of the work.

The policy of growing a little of everything, and not much of anything, from which no reliable data could be obtained, has been replaced by one of thorough work in lines which seem to be most important for this region, and continued long enough to obtain reliable data, which is to be published in bulletin form from time to time, as the Station Council may order. An important improvement has been made in collecting and recording data. All data is now kept in permanent books, and will have a value in carrying out future experiments, even after it is published in bulletins.

The lines along which most of the work of the year has been done are: Collecting data on the orchard and vineyard; variety tests, as well as best methods of culture and preservation of sweet potatoes; variety tests, best methods of culture and yields of garden peas; best methods of planting, cultivating and harvesting Kaffir corn and other non-saccharine sorghums; variety tests, proper amount of seed to sow, best time for sowing, and the results of different numbers of irrigations of wheat; variety tests of oats and barley; thirteen one-acre plats of alfalfa for ascertaining the best time for sowing, the right amount of seed, best methods of sowing, (drill or broadcast) with and without nurse crops, to be followed by experiments in irrigation, yield,

curing, and feeding; tests of clovers, grasses, millets and other forage plants; yields and different methods of germinating corn; yield, best methods of culture of canaigre; and a continuation of the meteorological observations.

Although the classes in this division have been small, a considerable amount of time has been spent in class work.

In co-operation with Professor Cockerell, some time was spent in arranging for a Farmers' Institute, which was held at the College, January 2, 3 and 4. It was the first ever held in the Territory, and quite a success in point of attendance and interest taken by those present. It is hoped that it will be the cause of arousing interest in this important matter in other parts of the Territory.

During the year three Berkshire hogs have been purchased as a nucleus for a herd. Pastures and a house have also been provided.

A greenhouse for experimental purposes is now being erected, and will be completed in time for use during the coming winter. Some work has been done, and more will be done in the way of introducing ornamental plants into this region.

The farm is in need of a corral and stables, also a better water supply for stock and irrigation, as many of the experiments fail for the lack of one irrigation.

Respectfully,

GEORGE VESTAL.

## DIVISION OF CHEMISTRY.

S. P. McCREA, Director.

*Sir:*—I have the honor to submit herewith a brief outline of the work of the Chemical Department of the Experiment Station, for the year ending June 30th, 1896.

Bulletin No. 17, on "Principles of Stock Feeding and Some New Mexico Feeding Stuff," was issued from the Department during the year. This bulletin includes the analyses of forage plants grown in New Mexico, together with a general statement of the principles of scientific stock feeding. Tables of average composition and digestibility of the more common stock foods are given, and also tables of feeding standards with explanation as to the methods of computing rations.

Work on the irrigating waters of the Territory has been continued during the year, many samples from different parts of the Territory having been examined. These analyses have been recorded and will be published at a future date in bulletin form. A considerable amount of work has also been done on alkali soils of the Rio Grande and Animas Valleys, which will be published at an early date.

Besides the above, a considerable number of miscellaneous analyses have been made of material submitted by people from different parts of the Territory. These have included soils, waters, alkali, sugar beets, minerals, and various other substances. The fact that the number of such analyses is constantly increasing is perhaps the best proof of the appreciation of this kind of work by the people of the Territory.

An investigation of the food of our native people was conducted during a portion of the year, for the United States Department of Agriculture. This investigation included a determination of the exact amount of food eaten by three typical

Native families, for a period of two weeks each. All articles of food used were analyzed, and the amounts of nutrients determined. Analyses were also made of a considerable number of foods used in this locality—sixty-seven samples in all. The results of this work will be published in a bulletin from the Department of Agriculture.

As the Chemist of the Station was reporter on Soils and Ash for the A. O. A. C. for the past year, much work was done in the laboratory on new methods for the analysis of soils. While this work was by no means completed, it is thought that some very valuable results were secured. A report of this work may be found in the reports of the A. O. A. C. for 1896.

Besides a large amount of work of such character as not to be included with the numbered analyses of the Department, such as the soil and ash work, to which reference has already been made, and other forms of research work which occupied no small portion of the time of the working force of the Department, 169 numbered samples were analyzed, as compared with 114 for 1894, and 162 for 1895.

Considering the fact that a large part of the time of the working force of the Department is taken up in the instruction of College students, and other College work, it is thought that quite as much has been accomplished during the year in the Chemical Department as could reasonably be expected, especially as the work is very seriously hampered at present on account of lack of room.

During the summer, the Chemist attended the Agricultural College and Experiment Station meeting at Denver, the A. O. A. C. meeting at Washington, and visited the chemical laboratories of a number of the Agricultural Colleges and Experiment Stations in other States, noting their arrangement, equipment, etc. It is thought that the knowledge gained in visiting these

laboratories may be of considerable value when our new building is completed, and the present laboratory moved to more commodious quarters.

Respectfully submitted,

ARTHUR GOSS,  
Chemist.

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## DIVISION OF ENTOMOLOGY AND ZOOLOGY.

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I take pleasure in making the following report on the work of my department.

A bulletin has lately been issued, designated "Report of the Entomologist, Part I." It is intended to follow it in a few months with Part II, which will be of a more technical nature. These two bulletins will contain most of the information which might have been presented in this report, and as they are readily accessible to the public, it is not worth while to enter into details here. It should not be forgotten, however, that a good deal of work has been done, the results of which have been sent to various scientific magazines and learned societies for publication, being too technical for Station bulletins. A list of such publications, together with the several articles contributed to newspapers, etc., is appended below. Much other work has not yet been completed, while several papers, not enumerated below, are awaiting publication.

The following localities, outside of the Mesilla Valley, have been visited during the year: Albuquerque, Santa Fe, Las Vegas, Watrous, Bernalillo, Eddy, Hagerman and Roswell.

### LIST OF PAPERS PUBLISHED BY THE ENTOMOLOGIST.

1. New North American Coccidae. Suppt. to Psyche, July, 1895, pp. 1-4.

2. New North American Bees. Suppt. to Psyche, July, 1895, p. 4, and Sept. pp. 5-6.
3. Insect Pests. Albuquerque Citizen, July 2, 1895.
4. San Jose Scale. New Mexican, July 11, 1895.
5. On some Coccidae, obtained by Mr. C. A. Barber, in the Island of Antigua, W. I. Ann. Mag. Nat. Hist., July, 1895, pp. 60-62.
6. New Bees of the genus *Halictus* from New Mexico, U. S. A. Ann. Mag. Nat. Hist., July, 1895, pp. 63-69.
7. On the Subglobular species of *Lecanium*. Canad. Entom., Aug., 1895, pp. 201-204.
8. Three New Scale Insects. Journ. Inst. Jamaica, Vol. 2, p. 167.
9. On a Butterfly, considered to be *Anaea Echemus*, found at Grand Cayman. Journ. Inst., Jamaica, Vol. 2, pp. 172-173.
10. *Cecidomyia Atriplicis*. Amer. Nat., Aug., 1895, pp. 766-767.
11. Contributions to Coccidology. Amer. Nat., Aug. 1895, pp. 725-732.
12. Scale Insects. Science Gossip, Aug., 1895, pp. 151-152.
13. New Scale Insects from Arizona. Bull. 14, Ariz. Agric. Exper. Sta., 1895, p. 56.
14. A Mutillid which resembles thistle-down. Suppt. to Psyche, Sept., 1895, pp. 6-7.
15. New Species of Coccidae. Suppt. to Psyche, Sept., 1895, pp. 7-8.
16. Miscellaneous Notes on Coccidae. Canad. Entom., Sept. 1895, pp. 253-261.
17. Injurious Insects. Southwestern Farm and Orchard, Sept., 1895, pp. 11-12. Oct., 1895, pp. 4-5.



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18. A New Mealy-bug on Sugar-cane. Journ. Trinidad Field-Nat. Club, Vol. 2, p. 195.
  19. A New Scale-Insect from Grenada. Journ. Trinidad Field-Nat. Club, Vol. 2, pp. 194-195.
  20. Description of a New Lecanium from Trinidad. Journ. Trinidad Field-Nat. Club, Vol. 2, pp. 219-220.
  21. The Coccid genus *Bergrothia*, Kraatz. Ent. News, Oct., 1895, pp. 261-262.
  22. Descriptions of New Hymenoptera. Trans. Amer. Ent. Soc., 1895, pp. 289-297.
  23. [With J. E. Casad.] Descriptions of New Hymenoptera. Trans. Amer. Ent. Soc., 1895, pp. 297-300.
  24. A New Species of Coccidae of the genus *Diaspis*. Actes Soc. Scient. Chili., 1895, Vol. 5, pp. 6-7.
  25. A New Scale Insect Infesting Yam Roots. Bull. Miscell. Information, Roy. Bot. Gard., Trinidad, Oct., 1895, pp. 85-86.
  26. Note on a *Dactylopius* (fam Coccidae) found on the branches of the Vine in Chile. An. Soc. Scient. Chili, Vol. 5, pp. 22-23.
  27. *Doryphora* (*Mycocoryna*) *lineolata*, Stal. Suppt. to Psyche, Nov. 1895, p. 11.
  28. Inaccurate Zoology. Science, Oct. 25, 1895, pp. 556-557.
  29. New Species of Bees. Suppt to Psyche, Nov., 1895, pp. 9-11.
  30. On the Structure and Affinities of some New Species of Molluscs from Borneo [Review.] Nautilus. Nov., 1895, pp. 81-82.
  31. The Second *Anacrabro*, and the Smallest American *Oxybelus*. Canad. Entom., Nov., 1895, pp. 308-309.
  32. *Pieris Rapae* in New Mexico. Entomologist, Nov. 1895, p. 304.

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33. Coccidological Items. Entom. News, Dec., 1895, p. 325.
34. The Grape-Vine Typhlocybrids of the Mesilla Valley, N. M., Suppt. to Psyche, Dec., 1895, p. 14.
35. Some New Insects. Suppt. to Psyche, Dec., 1895, pp. 15-16. Feb. 1896, p. 17.
36. [On Some Species of Tachardia.] Proc. Entom. Soc. London, 1895, pp. xxi-xxii.
37. Scale Insects liable to be introduced into the United States. Garden and Forest, Dec. 25, 1895 p. 513.
38. Sinistral Patula Strigosa. Nautilus, Jan. 1896, p. 108.
39. On the Natural Conditions which Affect the Distribution and Abundance of Coccidae. Proc. 7th Ann. Meeting Assoc. Econ. Ent., 1895, pp. 91-95.
40. Exomalopsis, a neotropical genus of bees, in the United States. Canad. Entom., Jan. 1896, pp. 25-26.
41. A Ceroplastes and its parasite. Suppt. to Psyche, Feb., 1896, p. 17.
42. Preliminary Diagnoses of New Coccidae. Suppt. to Psyche, Feb., 1896, pp. 18-20. March, 1896, p. 21.
43. California Slugs. Nautilus, Feb., 1896, p. 120.
44. Prosopis Subtilis. Canad. Entom., Feb., 1896, p. 42.
45. A New Scale Insect Infesting Date Palms. Entomologist. Feb., 1896, p. 52.
46. Coccidae. or Scale Insects, VIII. Bull. Botan. Dept. Jamaica, Jan., 1896, pp. 8-10.
47. [With C. F. Baker.] Some Species of Oxybelus found in New Mexico. Suppt. to Psyche, March, 1896, pp. 21-23.
48. A New Coccid from Texas. Canad. Entom., March, 1896, p. 83.

49. On the Coccidae (Scale Insects) of Trinidad. Pamphlet; Trinidad, 1896.
50. Warning to Orchardists. Rio Grande Republican, March 13; Independent-Democrat, March 18, 1896.
51. The Aspidistra Scale in California. Garden and Forest, March 18, 1896, p. 118.
52. New Species of Prosapis. Suppt. to Psyche, April, 1896, pp. 26-28. June, 1896, pp. 29-32.
53. The Bees of the genus Perdita. F. Smith. Proc. Acad. Nat. Sci., Phil., Jan., 1896, pp. 25-107.
54. Reptiles and Batrachians of the Mesilla Valley, New Mexico. Amer. Nat., April, 1896, pp. 325--327.
55. The Food of Some Colorado Birds. Amer. Nat., April, 1896, pp. 329-330.
56. The New Catalogue of Bees [Review.] Psyche, May, 1896, pp. 386-387.
57. [On Nature Studies.] N. M. Educator, April. 1896, p. 11.
58. The Male of Monodontomerus Montivagus, Ashm. Canad. Entom., May, 1896, p. 127.
59. The Evonymus Scale in Japan. Garden and Forest, May 13, 1896, p. 198.
60. A Destructive Scale in the Marquesas Is. Garden and Forest, May 20, 1886, p. 209.
61. Note on Eriopeltis Festucae. In Report of Entomologist and Botanist, Canadian Department of Agriculture, Central Exper. Farm. for 1895, [1896], pp. 146-147.
62. The Codling Moth. Practical Irrigation and Fruit Growing, June, 1896, p. 14.
63. The Mutillid Genus Chyphotes. Canad. Entom., June, 1896, p. 168.
64. Five New Bees of the Genus Calliopsis, from New Mexico. Canad. Entom. June 1896, pp. 158-161

Papers have also been published, treating of, or containing references to, material obtained by the department, by N. Banks, C. F. Baker, T. L. Casey, H. G. Dyar, W. J. Fox, C. P. Gillette, L. O. Howard, V. Sterki and H. F. Wickham. Our thanks are due to these and others who have given us assistance.

Ninety-five new species of insects have been described during the year from material collected by the Department, as against twenty-eight in the year previous. These belong to the following families: Coccidae, 3; Jassidae, 8; Hemerobiidae, 1; Lasiocampidae, 1; Curculionidae, 1; Apidae, 48; Andrenidae, 14; Crabronidae, 10; Philanthidae, 1; Nyssonidae, 2; Bembecidae, 1; Mutillidae, 3; Chrysididae, 1; Cynipidae, 1.

T. D. A. COCKERELL,

Entomologist.

## DIVISION OF BOTANY.

S. P. McCREA, Director:

*Sir:*—I have the honor to make the following report of work done in the Division of Botany of the Experiment Station, for the year ending June 30th, 1896.

The work of collecting and arranging an herbarium has gone forward with increased vigor this year since the head of the division has been given more time and additional facilities. Considerable new material has been added both by collection and by exchange, and material already in the herbarium has been made more available for study and comparison.

It became known to this Station that the Russian Thistle had gained a slight foothold at Santa Fé, and it was deemed wise by the Station Council to publish a bulletin of information and warning upon this subject. The work of compiling this bulletin naturally fell to the Division of Botany, and bulletin No. 16 was the result. It is hoped that it may assist, at least to a small degree, toward the extermination of this pest in this Territory, while this is still possible.

Bulletin No. 18 is the result of work done and notes taken for some time past upon the forage plants of New Mexico, the results therein printed being but a small portion of what it would be well for our farmers to know upon this subject. This subject should be continued in the future, treating the subject in its entirety. The bulletin referred to was published as supplementary to bulletin No. 17, from the Chemical Division, on the theory of stock feeding, and the chemical data are taken from that publication.

Some time and effort has been expended in replying to questions from various parts of the Territory, and in giving assistance to botanical work in other places.

Information upon plant diseases, weeds, life zones in New Mexico, and systematic botany is continually being gathered, and such information will be published as fast as it is deemed wise by the Station Council.

Very Respectfully,

E. O. WOOTON, Botanist.



## SUB-STATIONS.

### REPORT OF THE LAS VEGAS BRANCH EXPERIMENT STATION.

S. P. McCREA, Director.

*Sir:*—I herewith submit the following report of the Las Vegas Branch Experiment Station. The plan of experiments here given was carried out as nearly as circumstances would permit:

#### I. GRAINS.

1. *Wheat:*—

- (a) Testing of four varieties of winter wheat, in plats.
- (b) Variety tests of spring wheats.
- (c) Comparison of broadcast with drilling, using the same variety of grain.

2. *Oats:*—

- (a) Tests of four varieties in plats.
- (b) Treat a plat with  $\text{CuSO}_4$  for smut, and compare with an untreated plat.
- (c) Compare deep and shallow plowing.
- (d) Compare deep and shallow plowing with subsoiling.

3. *Barley:*—

Variety tests.

4. *Buckwheat:*—

Testing of two varieties.

5. *Flax:*—

Testing two varieties in plats, noting quality and yield.

*6. Corn:—*

Testing of several varieties, noting yield, manner of growth, date of maturity and fodder produced.

## II. FORAGE CROPS AND GRASSES.

*1. Sorghum:—*

Test its value as a forage crop.

*2. Field Peas:—*

(a) Alone and with oats for hay.

(b) Peas as a grain crop.

*3. Millet:—*

Testing of varieties in plats.

*4. Various Grasses:—*

Plat tests.

*5. Alfalfa:—*

(a) Alone and with orchard grass,

(b) Alfalfa with timothy.

(c) Alfalfa, timothy, and orchard grass.

(d) Different quantities of seed per acre; 15, 20, 25, 30, 35 and 40 pounds.

(e) Alfalfa alone and with a nurse crop.

(f) Alfalfa sown at intervals of thirty days, commencing April 1st, and extending to August 1st.

## III. OTHER CROPS.

*1. Potatoes:—*

(a) Trench method compared with ordinary drill culture.

(b) Plats treated with barnyard manure and wood ashes.

(c) Subsoiled plat compared with ordinary plowing.

(d) Plat of potatoes covered with straw and allowed to grow.

(e) Different times of planting the same variety.

(f) Test of thirty-six varieties.

2. *Onions*:—

(a) One-quarter acre of two good varieties, noting cost of production, and value as a farm crop.

(b) Test of several good varieties.

3. *Cabbage*:—

One-quarter acre of excellent late variety to test the cost of production and value as a farm crop.

4. *Sugar Beets*:—

Test of three varieties; analyze and note their yield per acre.

5. *Sunflower*.—

Note amount of seed produced.

6. *Beans*:—

Plats of the Mexican and Navy bean as a farm crop.

7. *Garden Vegetables*:—

Table beets, radishes, lettuce, okra, celery, egg-plant, squash, sweet potatoes, beans, peas, turnips, spinach. etc.; depending on the seed obtained.

IV. FRUIT.

Strawberries, blackberries, raspberries, currants, grapes, and several varieties of apple, peach, plum, quince, pear and apricot.

The work has been greatly hampered by the deficient water supply, and lack of rains to furnish moisture to germinate the seed. Owing to this fact some of the experiments undertaken were necessarily abandoned, and the results to be obtained can not be as satisfactory as was hoped for.

Respectfully submitted,

FRANK BEACH, Superintendent.

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REPORT OF THE SAN JUAN EXPERIMENT STATION.

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S. P. McCREA, Director.

*Sir:*—I herewith submit a condensed report of the work performed at the San Juan Branch Station for the past year. This has consisted of a continuation of many lines carried on the previous year, with the addition of some others, which our soil and conditions would permit. There is always much labor required which has no immediate bearing upon experiments, but which is essential to the proper maintenance of the station. This report, therefore, deals directly upon the lines of experimentation. The subjects under investigation are as follows:

I. EXPERIMENTING FOR THE RECLAMATION OF BLACK ALKALI SOILS.

- (a) With trees and seeds in such soil which had been treated the previous season with gypsum.
- (b) Plat treated with manure.
- (c) Plat treated with gypsum.
- (d) Plat treated with gypsum and manure.
- (e) Growth of Australian Salt Bush.
- (f) Use of gypsum with general crops.
- (g) Use of gypsum in different manner around fruit trees.

II. TESTING LEGUMINOUS CROPS FOR THEIR VALUE AS FERTILIZERS OF OUR UPLAND SOIL.

- (a) Noting the effect from plowing under peas upon the growth and yield of corn and oats, and the tilth of the soil.
- (b) Testing peas for number of crops in one season.
- (c) Peas and oats for value as hay producers and fertilizer.

- (d) Peas and oats alternating on four (4) one-half acre plats, for future trials of green fertilizer.
- (e) Growth of hairy vetch, (*Vicia villosa*.)
- (f) Growth of southern cow-pea, two varieties.
- (g) Testing growth and hardiness of four varieties of field peas.

### III. TOMATO BLIGHT.

- (a) Bordeaux mixture for prevention.
- (b) Copper carbonate solution for prevention.
- (c) Resistant power of varieties.

### IV. TESTING INSECTICIDES AND MECHANICAL MEANS FOR DESTRUCTION OF SQUASH BUG, (*Anasa tristis*.)

- (a) Hand picking and carbon bi-sulphide for mature beetle.
- (b) Kerosene emulsion for immature insect.

### V. BEANS.

- (a) Testing eleven varieties for productiveness and season of maturity.
- (b) Use of Paris-green, lime and water for the eradication of the New Mexico bean bug. (*Epilachna Corrupta*.)

### VI. CORN.

- (a) Eleven varieties of field corn for season of maturity and comparative production.
- (b) If period of maturity may be hastened by a number of years growth in this section.
- (c) Eleven varieties of sweet corn for period of maturity and comparative quality.

### VII. OATS.

- (a) Testing four varieties for comparative growth and yield.
- (b) The use of potassium sulphide for the prevention of smut.

## VIII. WHEAT.

- (a) Trial of seven varieties of winter wheat in a small way.
- (b) Six varieties of spring wheat to compare growth and to obtain seed for future use.

## IX. POTATOES.

- (a) Testing eighteen varieties for season of maturity and growth in this soil and climate.
- (b) Use of corrosive sublimate for the prevention of scab.
- (c) Noting the insect and fungus diseases.

## X. KAFFIR CORN.

- (a) Testing three varieties for growth, maturity and value for this section.

## XI.

Continued to give attention to orchard and brome grasses for pasturage.

## XII.

Trial of Bermuda and creeping bent grasses for lawns. Also, the value of the former for pasturage.

## XIII.

Planting four kinds of shade and ornamental trees.

In addition to the above lines of work, we grew plat of broom-corn, rye and peas for seed, and two acres of alfalfa which were cut to supply hay for stock. One more acre has been sown to alfalfa, also a plat to alfalfa with orchard grass and another to mammoth clover.

About twenty-three acres have been devoted to the work of the station, exclusive of pasturage.

It has not been our object to conduct a "model farm," the only desirable purpose which some consider the sub-stations can fill. To meet the needs of diversified conditions was the object



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of their establishment, and we have directed our efforts toward the investigation of those subjects which seemed to us of most importance to the farmers of this section.

Respectfully submitted,

H. H. GRIFFIN, Superintendent.

## TREASURER'S REPORT.

### *Agricultural Experiment Station of the New Mexico College of Agriculture and Mechanic Arts.*

THE UNITED STATES APPROPRIATION 1895-96.

DR.

To receipts from the Treasurer of the  
United States as per appropriation for  
fiscal year ending June 30, 1896, as per  
act of Congress, approved March 2nd,  
1887.....\$15,000.00

CR.

NEW MEXICO AGRICULTURAL EXPERIMENT STATION, 1895-96.

#### ABSTRACT 1.—SALARIES.

|    |  |    |          |
|----|--|----|----------|
| a. | Director and administrative officers,          |    |          |
|    | 3, amount.....                                 | \$ | 1,598.73 |
| b. | Scientific staff, 4, amount.....               |    | 1,699.96 |
| c. | Assistants to scientific staff, 4, amount..... |    | 3,775.00 |
| d. | Special and temporary services.....            |    | 295.51   |

Total.....\$7,369.20

## ABSTRACT 2.—LABOR.

|           |   |             |
|-----------|---|-------------|
| <i>a.</i> | Monthly employees, 5; average rate<br>\$12.50 to \$50; amount . . . . . | \$ 1,300.30 |
| <i>b.</i> | Daily employes, 13; average rate \$1;<br>amount . . . . .               | 793.11      |
| <i>c.</i> | Hourly employes, 25; average rate<br>10c. amount . . . . .              | 874.55      |

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Total . . . . . \$2,967.96

## ABSTRACT 3.—PUBLICATIONS.

|           |   |           |
|-----------|---|-----------|
| <i>a.</i> | For printing 4 Bulletins. No. of pages<br>125, total edition 11,000 . . . . . | \$ 921.21 |
| <i>b.</i> | For printing Annual Report. No. of<br>pages 40, total edition 500 . . . . .   | 154.27    |
| <i>c.</i> | For envelopes for bulletins and reports . . . . .                             | 32.00     |
| <i>d.</i> | Other expenses . . . . .  | 9.50      |

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Total . . . . . \$1,116.98

## ABSTRACT 4.—POSTAGE AND STATION-

ERY . . . . . \$ 347.26

ABSTRACT 5.—FREIGHT AND EXPRESS . . . . . 147.25

## ABSTRACT 6.—HEAT, LIGHT AND WATER.

|           |                 |          |
|-----------|-----------------|----------|
| <i>a.</i> | Heat . . . . .  | \$ 43.58 |
| <i>b.</i> | Light . . . . . |          |
| <i>c.</i> | Water . . . . . | 47.69    |

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Total . . . . . \$ 91.27

## ABSTRACT 7.—CHEMICAL SUPPLIES.

|           |                     |          |
|-----------|---------------------|----------|
| <i>a.</i> | Chemicals.....      |          |
| <i>b.</i> | Other Supplies..... | 53.73    |
|           |                     | <hr/>    |
|           | Total.....          | \$ 53.73 |

## ABSTRACT 8.—SEEDS, PLANTS AND SUNDRY SUPPLIES.

|           |                    |           |
|-----------|--------------------|-----------|
| <i>a.</i> | Agricultural.....  | \$ 195.66 |
| <i>b.</i> | Horticultural..... | 59.82     |
| <i>c.</i> | Botanical.....     | 33.97     |
| <i>d.</i> | Entomological..... | 130.82    |
| <i>e.</i> | Miscellaneous..... | 238.86    |
|           |                    | <hr/>     |
|           | Total.....         | \$ 659.13 |

ABSTRACT 9.—FERTILIZERS.....160.27

ABSTRACT 10.—FEEDING STUFFS.....92.50

ABSTRACT 11.—LIBRARY.....25.60

## ABSTRACT 12.—TOOLS, IMPLEMENTS AND MACHINERY.

|           |                    |           |
|-----------|--------------------|-----------|
| <i>a.</i> | Repairs.....       | 12.33     |
| <i>b.</i> | New purchases..... | 307.33    |
|           |                    | <hr/>     |
|           | Total.....         | \$ 319.66 |

NOTE.—Add below items of principal purchases under *b.*

|  |          |
|--|----------|
| Shot-gun.....                                | \$ 18.00 |
| Harrow.....                                  | 28.50    |
| Sprayer.....                                 | 10.80    |
| Mower.....                                   | 50.50    |
| Planet Jr. Drill, Las Vegas Sub-Station..... | 11.00    |
| Planet Jr. Hoe, Las Vegas Sub-Station.....   | 7.00     |

|                                      |       |
|--------------------------------------|-------|
| L. S. Stock, Las Vegas Sub-Station.. | 5.50  |
| Star Plow, Las Vegas Sub-Station..   | 8.00  |
| Grindstone, Las Vegas Sub-Station..  | 3.03  |
| Harrow, Las Vegas Sub-Station....    | 35.00 |
| S. S. Plow, Las Vegas Sub-Station..  | 8.00  |
| Scale, Las Vegas Sub-Station.....    | 5.75  |
| Seed Drill, Las Vegas Sub-Station..  | 48.00 |
| Plow, Aztec Sub-Station.....         | 4.00  |
| Sprayer, Aztec Sub-Station.....      | 9.00  |
| Grindstone, Aztec Sub-Station.....   | 5.50  |
| Chain, Aztec Sub-Station.....        | 3.00  |
| Grain Cradle, Aztec Sub-Station....  | 3.50  |
| Coulter, Aztec Sub-Station.....      | 3.50  |
| Riddles, Aztec Sub-Station.....      | 1.00  |
| Wagon tire, Aztec Sub-Station.....   | 2.80  |

## ABSTRACT 13.—FURNITURE AND FIXTURES.

|   |       |
|---|-------|
| Two Cases, Botanical and Zoological..\$ | 36.98 |
| Book case.....                          | 11.88 |

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Total.....\$ 48.86

## ABSTRACT 14.—SCIENTIFIC APPARATUS.

|                                  |       |
|----------------------------------|-------|
| Minimum thermometer.....\$       | 3.75  |
| Wet bulb thermometer.....        | 2.75  |
| 4 Soil thermometers.....         | 27.00 |
| 1 Set Max. thermometers.....     | 8.50  |
| 1 Max. Solar thermometer.....    | 10.00 |
| 1 Min. Terrest. thermometer..... | 7.00  |

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59.00

Ten per cent.....5.90

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53.10

Packing etc.....1.00

---

Total.....\$ 54.10

## ABSTRACT 15.—LIVE STOCK:

|           |               |    |       |
|-----------|---------------|----|-------|
| <i>a.</i> | Horses.....   |    |       |
| <i>b.</i> | Cattle.....   |    |       |
| <i>c.</i> | Sheep.....    |    |       |
| <i>d.</i> | Swine.....    | \$ | 58.75 |
| <i>e.</i> | Poultry.....  |    |       |
| <i>f.</i> | Sundries..... |    |       |
| <hr/>     |               |    |       |
|           | Total.....    | \$ | 58.75 |

## ABSTRACT 16.—TRAVELING EXPENSES.

|           |   |    |        |
|-----------|---|----|--------|
| <i>a.</i> | In supervision of station work.....                         | \$ | 308.68 |
| <i>b.</i> | In attending Farmers' Institutes and<br>other meetings..... |    | 414.70 |
| <hr/>     |   |    |        |
|           | Total.....  | \$ | 723.38 |

## ABSTRACT 17.—CONTINGENT EXPENSES.

|   |    |        |
|---|----|--------|
| Membership in A. A. A. C., '95-'96..      | \$ | 10.00  |
| Membership in A. A. A. C., '94-'95..      |    | 10.00  |
| Seal on Annual Report.....                |    | .50    |
| Rent of Mower, Las Vegas Sub-Station..... |    | 6.50   |
| Insurance, Aztec Sub-Station.....         |    | 80.00  |
| Stabling team, Aztec Sub-Station....      |    | .75    |
| <hr/>                                     |    |        |
| Total .....                               | \$ | 107.75 |

## ABSTRACT 18.—BUILDING AND REPAIRS.

|           |                         |    |             |
|-----------|-------------------------|----|-------------|
| <i>a.</i> | New Buildings.....      | \$ | 471.15      |
| <i>b.</i> | Improvements.....       |    | 106.10      |
| <i>c.</i> | Repairs.....            |    | 79.10       |
| <hr/>     |                         |    |             |
|           | Total .....             | \$ | 656.35      |
|           | Total expenditures..... |    | \$15,000.00 |



## SUPPLEMENTARY STATEMENT.

To receipts from other sources than  
the United States, for the year ending  
June 30th, 1896:

|                         |                 |           |
|-------------------------|-----------------|-----------|
| Farm products.....      | <i>Dr</i> ..... | \$ 110.75 |
| Labor by students ..... | <i>Cr</i> ..... | 110.75    |

## REPORT OF THE AUDITING COMMITTEE

We, the undersigned, duly appointed Auditors of the Corporation, do hereby certify that we have examined the books and accounts of the New Mexico Agricultural Experiment Station for the fiscal year ending June 30th, 1896; that we have found the same well kept and classified as above, and that the receipts for the year from the Treasurer of the United States are shown to have been \$15,000, and the corresponding disbursements \$15,000; for all of which proper vouchers are on file and have been examined and found correct, thus leaving no balance on hand.

And we further certify that the expenditures have been solely for the purposes set forth in the Act of Congress, approved March 2nd, 1887.

Signed:

THOMAS J. BULL,  
DEMETRIO CHAVEZ,  
Auditors.

{ SEAL }

Attest:—

F. E. LESTER, Custodian.

## MORRILL REPORT.

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Sixth Annual Reports of the President of the College, and the  
Treasurer of the Board of Regents, to the Secretary of  
Agriculture and the Secretary of the  
Interior, under Act of Congress  
of August 30, 1890.

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1895==1896.

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*Morrill Fund--For the Endowment of Colleges of Agriculture and Mechanic Arts.*

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### REPORT OF THE PRESIDENT OF THE COLLEGE.

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#### I. CONDITION AND PROGRESS OF THE INSTITUTION, YEAR ENDED JUNE 30, 1896.

The New Mexico College of Agriculture and Mechanic Arts is able to make a report of satisfactory progress for the year ending June 30, 1896.

As mentioned in the last report, the College has a very complete Wood Shop and Blacksmith Shop in successful operation. In the way of buildings there has been added during the year an extensive College Shop, costing some \$4,000. This

building includes an engine room, foundry, machine shop, draughting room, and physical laboratory. The sum of \$5,000 has been set aside by the Board of Regents for the proper equipment of the new building. When completed, about \$12,000 will have been spent in buildings and equipment for the Department of Mechanical Engineering.

The \$15,000 issue of Territorial bonds for the erection of an Experiment Station Building not having been approved by Congress, no funds are yet available for that valuable improvement.

The graduating class for the year consisted of four students, one young lady, and three young gentlemen. One member of the class completed the course in Mechanical Engineering; the others were graduated from the Scientific Course.

The Agricultural Experiment Station has continued to devote its attention principally to the weeds of New Mexico, some native forage plants, and the entomological life zones of the Territory. Bulletins have been issued on all of the subjects during the year.

The changes in the direction of a higher standard of admission to the College, and of broader and deeper courses of study have been sustained and continued.

The enrollment for the year has decreased to 115. This is owing principally to the dropping off of an entire class from the Preparatory Department, which last year enrolled thirty-six students.

It is to be hoped that for the good name of the College this policy will be continued, and that only students of proper age and sufficient scholarship will be admitted to the Institution.

The year's work in all departments was completed in a creditable manner.

|   |             |
|---|-------------|
| II. RECEIPTS FOR AND DURING THE YEAR ENDED JUNE 30, 1896.                   |             |
| 1. Balance on hand July 1st, 1895 . . . . .                                 | \$17,342.26 |
| 2. State aid: (a) Income from endowment granted<br>by State . . . . .       |             |
| “ (b) Appropriation for current expenses . . . . .                          | 1,457.24    |
| “ (c) Appropriations for buildings and<br>other special purposes . . . . .  | 5,742.76    |
| 3. Federal aid: (a) Income from land grant act of<br>July 2, 1862 . . . . . |             |
| “ (b) For Experiment Stations, act of<br>March 2, 1887 . . . . .            | 15,000.00   |
| “ (c) Additional endowment, act of<br>August 30, 1890 . . . . .             | 21,000.00   |
| 4. Fees and all other sources . . . . .                                     | 850.52      |
| <hr/>   |             |
| Total . . . . .   | \$61,392.78 |

### III. EXPENDITURES FOR AND DURING THE YEAR ENDED JUNE 30, 1896.

|  |             |
|--|-------------|
| 1. Instruction in the subjects specified in Sec. 1, act<br>of August 30, 1890 . . . . .                          | \$25,438.31 |
| 2. Experiment Station . . . . .  | 15,261.05   |
| 3. Instruction in all other subjects specified, if any,<br>not mentioned in Question 1, of this series . . . . . | 3,682.46    |
| <hr/>  |             |
| Total . . . . .  | \$44,381.82 |

### IV. PROPERTY AND EQUIPMENT, YEAR ENDED JUNE 30, 1896.

Value of all buildings, \$32,500.00; of other equipment, \$29,500.00; value of above property (an estimate only is expected) not used for the instruction in the subjects specified in Sec.

1, of act of August 30, 1890. buildings \$2,000, of other equipment \$1,500.

Total number of acres, 250; acres under cultivation, 100; acres used for experiments, 75; value of farm lands, \$10,000; amount of all endowment funds, none.

#### V. LIBRARY, YEAR ENDED JUNE 30, 1896

1. Number of bound volumes, June 30, 1896, 2,800; pamphlets, 500.
2. Bound volumes added during year ended June 30, 1896; 476; pamphlets, 150.

Total volumes, 3,276; pamphlets, 650.

#### VI. FACULTY DURING THE YEAR ENDED JUNE 30, 1896.

|   | Male. | Female. |
|---|-------|---------|
| 1. College of Agriculture and Mechanic Arts:—                   |       |         |
| (a) Preparatory Classes .....                                   | 1     | 2       |
| (b) Collegiate and Special Classes....                          | 15    | 2       |
|   | —     | —       |
| (c) Total, counting none twice.....                             | 15    | 2       |
| 2. Number in all other departments (excepting duplicates) ..... | 0     | 0       |
| 3. Number of staff of Experiment Station.....                   | 8     | 0       |

#### VII. STUDENTS DURING THE YEAR ENDED JUNE 30, 1896.

|   | Male. | Female |
|---|-------|--------|
| 1. College of Agriculture and Mechanic Arts:—                 |       |        |
| (a) Preparatory Classes.....                                  | 33    | 17     |
| (b) Collegiate and Special Classes.....                       | 18    | 13     |
| (c) Post graduate courses.....                                | —     | —      |
| Total, counting none twice.....                               | 51    | 30     |
| 2. Number in all other departments.....                       | 25    | 9      |
| 3. Number of students that pursued courses in agriculture, 1; |       |        |

mechanical engineering, 5; civil engineering, none; electrical engineering, none; mining engineering, none; architecture, none; household economy, none; veterinary science, none; military tactics, none.

4. What degrees and how many of each kind were conferred in 1895-'96:

On men, four—Bachelor of Science.

On women, one—Bachelor of Science.

5. What and how many honorary degrees were conferred in 1895-'96? None.

(Signed.)

SAMUEL P. MCCREA,

Date: July 1, 1896.

President and Director.

## REPORT OF THE TREASURER.

### RECEIPTS.

|  |             |
|--|-------------|
| Balance on hand July 1st, 1895.....                                      | \$19,789.86 |
| Date of receipt of Installment for 1895-'96, September 26th, amount..... | 21,000.00   |

Total available for the year ended June 30, 1896. \$40,789.86

### DISBURSEMENTS.

*Agriculture:—*

1. For Salaries of Instructors:  
George Vestal.....\$1,200.00
2. For facilities as follows:  
Text-books and reference  
books.....27.30  
Stock and material.....5.00

Total. ....\$ 1,232.30



*Mechanic Arts:—*

|                                 |           |
|---------------------------------|-----------|
| 1. For Salaries of Instructors: |           |
| Horace Ropes.....               | \$ 930.05 |
| F. W. Brady.....                | 855.90    |
| Charles Mills.....              | 750.00    |
| J. P. Stewart.....              | 916.63    |
| A. H. Peterson.....             | 61.00     |
| 2. For facilities as follows:—  |           |
| Text-books and reference        |           |
| books.....                      | 35.67     |
| Apparatus, machinery and        |           |
| stock.....                      | 1,259.31  |
| Total.....                      | 4,808.56  |

*English Language:—*

|                                 |             |
|---------------------------------|-------------|
| 1. For Salaries of Instructors: |             |
| S. P. McCrea.....               | \$ 750.00   |
| John P. Owen.....               | 750.00      |
| A. E. Davisson.....             | 900.00      |
| Ida M. Jones.....               | 900.00      |
| Ellen F. Gibson.....            | 400.00      |
| Elizabeth Wickham.....          | 300.00      |
| F. E. Lester.....               | 1,000.08    |
| Mae Gilmore.....                | 142.50      |
| 2. For facilities as follows:—  |             |
| Text-books and reference        |             |
| books.....                      | 376.96      |
| Apparatus, machinery, stock     |             |
| and material.....               | 256.51      |
| Total.....                      | \$ 5,776.05 |

*Mathematical Science:—*

## 1. For Salaries of Instructors:

|                          |             |
|--------------------------|-------------|
| Clarence T. Hagerty..... | \$ 1,600.00 |
| A. E. Davisson.....      | 900.00      |
| Ellen F. Gibson.....     | 400.00      |
| J. A. Christman.....     | 1,100.00    |
| O. L. Miller.....        | 41.95       |

## 2. For facilities as follows:

|  |       |
|--|-------|
| For text-books and refer-<br>ence books.....       | 99.73 |
| Apparatus, stock, machin-<br>ery and material..... | 44.57 |

---

Total.....\$ 4,186.25

*Natural or Physical Science:—*

## 1. For Salaries of Instructors:

|                         |             |
|-------------------------|-------------|
| Elmer O. Wooton.....    | \$ 1,200.00 |
| Arthur Goss.....        | 1,500.00    |
| T. D. A. Cockerell..... | 1,200.00    |
| R. F. Hare.....         | 750.00      |

## 2. For facilities as follows:

|  |        |
|--|--------|
| For text-books and refer-<br>ence books.....     | 291.11 |
| Apparatus, machinery,<br>stock and material..... | 764.32 |

---

Total.....\$ 5,705.43

*Economic Science:—*

## 1. For Salaries of Instructors:

|                   |             |
|-------------------|-------------|
| John P. Owen..... | \$ 1,250.00 |
| S. P. McCrea..... | 850.08      |

## 2. For facilities as follows:

|   |        |
|---|--------|
| For text-books and reference books . . . . .      | 253.61 |
| Apparatus, machinery, stock and material. . . . . | 83.65  |

---

Total . . . . . \$ 2,437.34

Total expended during the year . . \$24,145.93

Balance remaining unexpended July

1st, 1896 . . . . . \$16,643.93

I hereby certify that the above account is correct and true, and, together with the schedules hereunto attached, truly represents the details of expenditures for the period and by the Institution named, and that said expenditures were applied only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural, and economic science, with special reference to their applications in the industries of life and to the facilities for such instruction.

(Signed.)

DEMETRIO CHAVEZ, Treasurer.

## TERRITORIAL FUNDS.

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Sixth Annual Report of the Board of Regents of the New  
Mexico College of Agriculture and Mechanic Arts, to  
the Governor of the Territory, for the Year  
Ending November 30th, 1896.

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1895==1896.

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*Territorial Funds--For College Buildings and for Sub-  
Stations*

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## REGENTS' REPORT.

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HON. WILLIAM T. THORNTON,

Governor of New Mexico:

*Sir:*—In accordance with section 60, chapter 138, of the Acts of the Legislative Assembly of the Territory of New Mexico, approved February 28th, 1889, relating to the New Mexico College of Agriculture and Mechanic Arts, the Regents of said College respectfully submit the following annual report, including the reports of the President of the College, and the Treasurer of the Board.

The only change in the composition of the board was the appointment of Hon. A. A. Jones, of Las Vegas, in place of Hon.

J. D. W. Veeder, also of Las Vegas. At the regular quarterly meeting, March, 1896, the board was re-organized by re-electing the same officers as for the previous year: T. J. Bull, president, and Demetrio Chavez, secretary and treasurer.

The Board are very much pleased with the good work being done at the college, and feel very much gratified with the progress being made, and the great interest manifested by the faculty and students.

On account of the industrial training afforded by this college, it more clearly represents the bulk of the population of our Territory than any other institution. It is of the utmost importance that the Territory should supply it with the necessary buildings, so that it may be able to carry out the purposes for which it was created.

The last Legislative Assembly voted an issue of Territorial bonds, amounting to \$15,000, for an Experiment Station Building. As yet these bonds have not been approved by Congress, but it is hoped that they soon will be, as the college is in great need of a station building.

Some of the most pressing needs of the college are an efficient water supply, a satisfactory heating plant for the main college building, and a girl's dormitory with a dining hall.

On account of the Legislative Assembly of two years ago limiting the expenditure of the Territorial fund, to be collected under tax levy of 21-100 of a mill for 1895 and 1896, *exclusive*ly to building and repairs, the college has been left without funds for certain purposes, such as: Printing a catalogue, fuel, janitor's services, the teaching of Spanish, insurance, and other necessary expenses which cannot be met out of the United States funds.

We hope that the coming Legislative Assembly will see fit not only to remove this limitation for the taxes to be collected in

the future, but also to allow the board to expend the tax levy of the past two years as their good judgment may determine; such having been the custom from the inception of the college up to the time of the last Legislature.

The Board of Regents wish to impress upon you the fact that the Department of Agriculture, at Washington, have plainly informed this Board that they do not approve of any of the Hatch fund being expended on any of the Sub-Stations of this Territory. Hence appropriations must be made for the maintenance of these Sub-Stations by the Territorial Legislature, or they will have to be discontinued.

For detailed information as to the work of the Agricultural Experiment Station, the Regents call attention to the 7th annual report of the Hatch fund. For information relating to the work of the college, see report of the President, which is attached to this report.

Herewith you will find a list of the professors, instructors, and assistants employed in the college for the year 1896-1897: Cornelius T. Jordan, A. M., President and Professor in Psychology and Logic; John P. Owen, Vice-President and Professor of History and Political Science; C. T. Hagerty, M. S., Professor of Mathematics; Arthur Goss, M. S., A. C., Professor of Chemistry; George Vestal, Professor of Agriculture and Horticulture; Frank W. Brady, M. E., Professor of Mechanical and Irrigation Engineering and Physics; Walter W. Robertson, A. M., Professor of English and Latin, and Principal of the Sub-Freshman Department; John D. Tinsley, Professor of Biology; Geo. W. Miles, M. S., Professor of Astronomy and Geology, and Instructor in Bookkeeping; Ida M. Jones, Instructor in Spanish and Assistant in Sub-Freshman Department; Frank E. Lester, Instructor in Stenography and Typewriting and College Clerk; R. Fred Hare, M. S., Instructor in Chemistry; Fabian Garcia,



B. S., Meteorologist and Assistant in Agriculture and Horticulture; Chas. Mills, Instructor in College Shops; J. F. Bennett, Jr., Instructor in Telegraphy; Ellen F. Gibson, Instructor in Elocution and Physical Culture and Assistant in Sub-Freshman Department; Geraldine Combs, Assistant in the Sub-Freshman Department.

Respectfully,

THOMAS J. BULL, President.

DEMETRIO CHAVEZ, Secretary.

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## PRESIDENT'S REPORT.

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TO THE HON. BOARD OF REGENTS OF THE NEW MEXICO COLLEGE OF AGRICULTURE AND MECHANIC ARTS;

*Gentlemen:*—I have the honor to submit the following report of this College for the year ending Nov. 30th, 1896:

The following changes in the Faculty have taken place during the past year: S. P. McCrea, president and director, was succeeded by C. T. Jordan, A. M.; A. E. Davisson, professor of Latin, and principal of the Preparatory Department, resigned, and was succeeded by W. W. Robertson, A. M., to whom was also given the professorship in English; the departments of Professors Cockerell and Wooton were combined and placed under Professor John D. Tinsley, who was elected professor in biology; G. W. Miles was given charge of astronomy and geology, and also made instructor in bookkeeping, in place of Professor Christman, who resigned.

The name Preparatory Department was changed to Sub-Freshman; Miss Geraldine Combs, of Central College, Mo., was employed as an assistant in this department. J. P. Stewart, instructor in telegraphy, resigned, and was succeeded by J. F. Bennett, Jr.

The following college departments are now being conducted: (1) Agriculture and Horticulture; (2) Chemistry; (3) Biology; (4) Engineering and Physics; (5) Mathematics; (6) History and Political Science; (7) Mental Science; (8) Elocution and Physical Culture; (9) Languages and Literature.

The courses of study during the year 1895-'96 have been four, viz: (1) Scientific; (2) Agricultural; (3) Mechanical Engineering; (4) Irrigation Engineering. These courses with a very few exceptions, are alike in the Freshman and Sophomore years. For these years the branches of study have been selected because of their value in securing mental culture, in widening the student's intellectual horizon, and in furnishing the necessary preparation for the strictly technical studies of the Junior and Senior years.

Each course includes training in language, literature, and history. These subjects are especially valuable for their influence in the formation of character and of correct views of life. They develop breadth of view and promote liberality of opinion, both of which are necessary for rapid advancement in any field of labor. An attempt is made to carefully supplement theory with practice in all courses.

Every male student in the regular college courses is required to take shop practice during the Freshman year. This work consists of one term of carpentry, one term in wood turning, and one term in blacksmithing. The time allotted to practice is seven hours per week, and the exercises given are the same as for regular mechanical students. All college students are also given five hours a week throughout the year in industrial drawing.

The class of '96 was composed of four members: Mae Gilmore, Alfred Holt, Albert Peterson, Clarence Rhodes. The commencement exercises were excellent and were appreciated by a large and intelligent audience.

The enrollment on November 30th, 1896, was as follows:

College: Seniors, 4; Juniors, 9; Sophomores, 6; Freshman, 18; Specials 13; Post Graduates, 1. Total, 50.

Business Department: Bookkeeping, 11; Stenography, 11; Telegraphy, 3. Total, 25.

Sub-Freshman Department, 71. Total in all Departments, 146.

These numbers, compared with last year's enrollment, show an increase of 19 in the College Department, and 21 in the Sub-Freshman Department, and a decrease of six in the Business Department. An increase of 34 in all Departments.

The New Mexico College of Agriculture and Mechanic Arts is to-day, on account of its large and able Faculty, its well equipped laboratories, its shops and their splendid facilities, and the aid which it derives from the National Government, one of the best Educational Institutions in the West, and certainly deserves the patronage of the citizens of New Mexico.

The library now numbers about 3,000 volumes and about 2,000 pamphlets. Each department is supplied with a technical library for daily use in the class work.

The reading room is supplied with about seventy of the leading magazines, journals, and papers. The advantage of such a library and reading room cannot be overestimated.

The tendency of education being toward the industrial, it may be of interest to the people of New Mexico to know that the equipment of our mechanical, scientific, and agricultural departments is such as to afford to the youth of our Territory, an excellent opportunity to secure a first-class industrial education. All of our college courses are based upon this great principle.

The scientific course of this college is one of the best courses to be found anywhere. It embraces training in geometry, advanced algebra, trigonometry, higher algebra, analytic geome-

try, calculus and astronomy; a year's work in each of the following subjects; Physics, botany, chemistry, general history, political science, mental science; a term's work in each of the following: History of civilization, zoology, entomology, and physiology, also two years' work in Latin or Spanish. Additional laboratory work in any of the sciences is given in the Senior year. In fact this course gives such training as will make a well rounded college course.

The agricultural course, as now arranged, affords a good liberal education, and gives to the student in agriculture a practical knowledge in scientific farming.

The engineering courses are such as to turn out not only good engineers, but well educated men.

The business department is in excellent condition, and to those who do not have much time or means to pursue a college course, there is here afforded an excellent chance to get a good business education in any of the three lines, viz: Stenography and Typewriting, Bookkeeping, and Telegraphy.

Connected with the college, and under its control and guidance, is the Agricultural Experiment Station, which is devoted to investigation in science as related to agriculture. For experimentation in agriculture and horticulture there is provided a college farm of 100 acres, all of which is in cultivation. In order that the experiments may be made in the varied soils, and climates of the Territory, branch farms have been established at Aztec, in San Juan county, in charge of H. H. Griffin, B. S.; at Las Vegas, San Miguel county, in charge of F. O. Kihlberg; and at Roswell, in Chavez county, which is not yet in operation.

In conclusion I am glad to add that we now have an efficient corps of workers, and that we are prepared to do as good work as the colleges of most of the states. All of the faculty are working for the interests of the college.

Respectfully,

C. T. JORDAN, President.

## TREASURER'S REPORT

### FINANCIAL STATEMENT NO. 1.—TERRITORIAL FUND.

Receipts and disbursements of Territorial Fund, under Act of  
Feb. 28th, 1889, for the year ending Nov. 30th, 1896.

#### RECEIPTS:

|                                     |            |
|-------------------------------------|------------|
| Balance reported Dec. 1, 1895.....  | \$1,574.84 |
| From Territory.....                 | 625.14     |
| From Tuition fees.....              | 571.00     |
| From Sub-Station Farm Products..... | 92.22      |
|                                     | \$2,863.20 |

#### DISBURSEMENTS:

|   |            |
|---|------------|
| For Salaries.....   | \$2,365.00 |
| For Furniture and Property.....   | 83.73      |
| For Stationery, Printing and Advertising..  | 529.66     |
| For Insurance.....  | 150.00     |
| For Miscellaneous Expenses.....   | 596.10     |
| For Text-books .....  | 35.04      |
| For Student Labor.....  | 105.83     |
| For Traveling Expenses.....   | 313.20     |
|   | \$4,178.56 |
| Excess of Disbursements over Receipts.....  | 1,315.36   |
| Balance still due on College Building, as per Annual<br>Report of Dec. 1, 1894..... | \$5,623.78 |

(NOTE:—A "Corrected" statement received from the Territorial Auditor, Sept. 30th, 1896, showing the distribution of Territorial Funds received by the College during 1895 and 1896,

conflicts with former statements received, and if taken as correct, reduces the receipts shown in the above Financial Statement, by \$872.89. See also Notes under Financial Statements Nos. 3 and 4.)

FINANCIAL STATEMENT NO. 2.—PECOS VALLEY SUB-STATION FUND.

Receipts and disbursements, under Territorial Act of Feb. 23rd, 1893, for the year ending Nov. 30th, 1896.

|  |                 |
|--|-----------------|
| Balance on hand Dec. 1, 1895, per last |                 |
| Annual Report.....                     | \$1,707.60      |
| Received from Territory.....           | 145.00          |
|  | —————\$1,852.60 |
| Paid for Survey, Abstract, etc.....    | 40.50           |
|  | —————           |
| Balance on hand.....                   | \$1,812.10      |

FINANCIAL STATEMENT NO. 3.—ADDITIONAL COLLEGE BUILDING FUND.

Receipts and disbursements under Territorial Act of Feb. 23rd, 1893, for the year ending Nov. 30th, 1896.

|   |          |
|---|----------|
| Received from the Territory.....            | \$ 90.54 |
| Paid on completion of adobe shop building.. | 90.54    |

(NOTE:—If the “Corrected” statement received from the Territorial Auditor, (See note above) be accepted, the receipts for the Additional College Buildings Fund, as reported above, and in the Annual Report for 1895, are in excess to the extent of \$171.74.)

FINANCIAL STATEMENT NO. 4.—TERRITORIAL BUILDINGS FUND.

Receipts and disbursements under Territorial Levy for 46th and 47th Fiscal Years, for the year ending Nov. 30th, 1896.



|   |            |
|---|------------|
| Balance on hand Dec. 1, 1895, per last          |            |
| Annual Report.....                              | \$2,884.23 |
| Received from Territory.....                    | 4,519.32   |
|   | \$7,403.55 |
| Paid for completion of adobe shop building..... | 2,477.14   |

Balance on hand.....\$4,926.41

(NOTE:—If the Territorial Auditor's "corrected" statement, (see notes above) be accepted, the receipts shown above and in the Annual Report for 1895, should be increased to the extent of \$1,044.63.)

TERRITORY OF NEW MEXICO,) ss.  
County of Dona Aña. }

Thomas J. Bull, President of the Board of Regents of the New Mexico College of Agriculture and Mechanic Arts, and Demetrio Chavez, Secretary and Treasurer of the said Board of Regents, say that the foregoing financial statements do represent a true and correct statement of all monies received and disbursed by and for the said New Mexico College of Agriculture and Mechanic Arts, for and during the periods named and the purposes stated in said financial statements, and that properly signed vouchers are on file for all disbursements shown by said financial statements to have been made.

IN WITNESS WHEREOF we have hereunto attached the seal of the said Board of Regents, and subscribed our names.

(Signed,)

THOMAS J. BULL,  
President of the Board of Regents  
of the New Mexico College of  
Agriculture and Mechanic Arts.



(Signed.)

DEMETRIO CHAVEZ,  
Secretary and Treasurer of the  
Board of Regents of the New  
Mexico College of Agriculture  
and Mechanic Arts.

Be it remembered, that on this 21st day of January,



Eighteen Hundred and Ninety-seven, before me, the undersigned, a Notary Public, within and for the County of Doña Ana, Territory of New Mexico, personally appeared Thomas J. Bull and Demetrio Chavez, known to me to be the same persons described in, and who executed the foregoing instrument, and being duly sworn, they acknowledged that they executed the same of their free act and deed.

In testimony whereof, I have hereunto set my hand and affixed my Notarial Seal, the day and the year first above written.

(Signed.)

ALBINO FRIETZE,  
Notary Public.









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